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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,562	02/12/2002	Mark W. Miles	05652P005	6550

7590

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EXAMINER

BARRECA, NICOLE M

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,562

Applicant(s)

MILES, MARK W.

Examiner

Nicole M. Barreca

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-19 are pending in this application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by "each structural layers defines the base layer", as recited in claim 19. Defined how?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1- 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyata (US 5,622,814).
6. Miyata discloses a method for fabricating an active substrate. On a transparent substrate 6, a gate electrode 7, an insulated conductor layer 7a, a gate insulator 9, a first semiconductor layer 10, a passivation layer 11, and a second semiconductor layer

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12 are formed. Layers 7, 7a, 9, 10, 11 and 12 correspond to the applicant's stack of layers on a substrate. A negative photoresist layer 23 (applicant's middle layer) is coated over the entire surface. Ultraviolet rays 21 are irradiated from the backside of the substrate using gate electrode 7 and insulated conductor layer 7a (applicant's one or stack of layers patterned with longitudinally spaced grooves or at least one aperture) as a mask. The resist is developed, removing the portions corresponding to the gate electrode 7 and insulated conductor layer 7a. A conductor layer 24 is then deposited over the resist (applicant's top or structural layer). Portions of the conductor layer 24 overlying the resist are then removed with the resist, leaving a conductor pattern 24 (transverse strips, see fig.4A). The patterned conductor layer 24 is then used as an etching mask to remove portions of the first and second semiconductor layers 11 and 12 (applicant's uppermost sacrificial layers). A transparent conductive layer is deposited and patterned to form a drain electrode 12, a source electrode 14 and a pixel electrode 15 (col. 6, 41-64, fig.6A-6G). An example for the material for the transparent substrate is glass, such as Corning Glass 7059 (col.4, 5-6). Materials for the source, drain and pixel electrodes include various conductive materials such as Al, Mo, Ni, other metals or their silicides (col.11, 26-49).

7. Claims 1-8, 10, 13, 14, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Shih (US 5,976,902).

8. Shih discloses a self-aligned patterning process. ITO layer 202 and first metal layer 204 (one layer) are formed on glass substrate 200 and patterned, followed by

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deposition of a stacked layer consisting of a first silicon nitride layer 206, amorphous 208 and a second silicon nitride layer 210 (step a, b). Photoresist 212 (middle layer) is then formed and back-side exposed using gate electrodes 204 as a mask (step c, d). The photoresist is developed and used as a mask to etch layer 210 (sacrificial layer), followed by deposition of doped amorphous silicon layer 216 (top or structural layer) (repeated steps a, b). Negative photoresist 218 is deposited and back-side exposed using 204, 210 as a mask (repeated step c, d). Negative photoresist 218 is developed and used as a mask to etch layer 216. See col.3, l.44-col.4, l.33 and figures 2-7.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki (US 5,503,952) discloses a method for forming a liquid crystal display using back-side exposure.

Chou (US 5,972,193) discloses a method for manufacturing a planar coil using a back-side exposure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Barreca whose telephone number is 703-308-7968. The examiner can normally be reached on Monday-Thursday (8:00 am-6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Nicole Barreca
Patent Examiner
Art Unit 1756

A handwritten signature in cursive script, appearing to read "Nicole Barreca".

June 13, 2003